

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Attorney Docket № 14167US02)

In the Application of:	)	
	)	
Jeyhan Karaoguz, et al.	)	<i>Electronically Filed on 29-SEP-2008</i>
	)	
Serial No. 10/658,161	)	
Filed: September 9, 2003	)	
For: SYSTEM AND METHOD FOR	)	
PROVIDING A SUPER CHANNEL IN A	)	
MULTI-BAND MULTI-PROTOCOL	)	
HYBRID WIRED/WIRELESS	)	
NETWORK	)	
	)	
Examiner: Wanda Z. Russell	)	
Group Art Unit: 2616	)	
Confirmation No. 5714	)	

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application, stated in the final Office Action mailed on May 27, 2008 (hereinafter, the Final Office Action) with a period of reply through September 29, 2008, pursuant to the attached Request for One Month Extension of Time. The Applicant also requests review of the arguments stated on pages 2-4 of the Advisory Office Action mailed on August 28, 2008 (hereinafter, the Advisory Office Action). No amendments are being filed with this request.

This request is being filed with a Notice of Appeal. The review is being requested for the reasons stated on the attached sheets.

**REMARKS**

The present application includes pending claims 1-42, all of which have been rejected. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 1-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,521,910 ("Matthews"), in view of U.S. Patent Application Publication No. 2002/0131363 ("Beshai"). Claims 41-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,085,306 ("Voldman"), in view of Beshai. The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

**I. Examiner's Response to Arguments in the Non-Final Office Action (mailed 11/15/2007) and in the Final Office Action**

**A. The 11/15/2007 Non-Final Office Action ("Office Action")**

The Examiner states the following in the Non-Final Office Action:

Matthews discloses aggregating (accumulates, col. 19, line 18-19) messages (values, col. 19, line 18) from a physical layer (611-Fig. 22. Note that Fig. 22 is an illustration of a port object for the switch of FIG. 21, and FIG. 21 is an illustration of the software embodiment of the invention) of each communication band (col. 1, line 15. Note that col. 1 is the field of the invention. It describes that the invention is directed to allocating bandwidth by multiple level of arbitration that means multi-band) and each communication channel (all nodes, col. 19, line 19) associated with each of a plurality of protocols (col. 1, lines 13-14. Note that col. 1 is the field of the invention. It describes that the invention is protocol independent that means multi-protocol) in a single multiprotocol layer of the multi-band, multi-protocol network (Figs. 11A-C, and col. 6, lines 56-57).

See the Office Action at page 8. It seems that the Examiner has performed individual word searches throughout the specification without showing any support for the specific claim limitations recited by the Applicant. For example, the Examiner equates "aggregating" with "accumulating" and is citing to col. 19, lines 18-19 of Matthews. At col. 19, lines 18-19, Matthews discloses a best path determination method for the SCS switch agent 78 using accumulation of path values  $a, \dots, n$ . In fact, path values are also equated to value vectors that are used for finding an optimal path in a mesh of network nodes. The Applicant points out that the relevant claim limitation is "aggregating messages from a physical layer." Therefore, even if we assume that the accumulation of Matthews is the same as aggregation, the Examiner's argument is still deficient since the path values  $a, \dots, n$  are obviously not physical layer (PHY) messages.

With regard to Examiner's statement that "the invention is directed to allocating bandwidth by multiple level of arbitration that means multi-band," the Applicant points out that Matthews uses multiple levels of arbitration only to allocate the bandwidth, i.e., the available bandwidth disclosed by Matthews. There is no disclosure that, in fact, Matthews utilizes a multi-band network. On the contrary, Matthews discloses the use of bandwidth-limited shared resources. See Matthews, col. 1, lines 15-20.

With regard to "multi-protocol", the Applicant points out that Matthews, at col. 1, lines 13-14, states "establishing temporary connections which are protocol-independent and transparent." In other words, the temporary connections are protocol-independent, i.e., they can function under different protocols. This, however, does not mean that the network of Matthews is a multi-protocol network. Therefore, the Applicant maintains the arguments stated in the September 25, 2007 response.

The Examiner states the following in the Office Action:

Applicant argues that Voldman et al. do not teach the limitation of "a multiprotocol layer above, and interfacing with said MAC layer" as recited by the applicant in claim 41. In response, the Examiner respectfully disagrees. In col. 9, lines 8-11, Voldman et al. state that "The MAC layer 44 may use a protocol described in IEEE 802. However, other MAC layer protocols could also be used, such MCNS MAC layer protocol, for instance". It is clear that Voldman et al. teach a multi-protocol layer.

See the Office Action at page 8. The Applicant points out that col. 9, lines 8-11 of Voldman relate to the MAC layer. However, the relevant claim limitation is "multiprotocol layer above ... said MAC layer." Voldman clearly does not satisfy this limitation. Therefore, the Applicant maintains the arguments stated in the September 25, 2007 response.

## B. The Final Office Action

The Examiner states the following in the Final Office Action:

Applicant argues that the "path values a, ... , n" in the reference (col. 19, lines 18-19) of Matthews, is not physical layer message. In another paragraph in the same endeavor, Matthews teaches aggregating messages (combination of source port, source MAC, ... , refer to col. 17, lines 37-39) from a physical layer.

See the Final Office Action at page 7. The Applicant has already explained why the path values a, ..., n are not a physical layer message (e.g., see section A above). In the above Final Office Action citation, the Examiner does not address Applicant's arguments from the February 15, 2008 response. Instead, the Examiner seems to rely for support on a new citation (col. 17, lines 37-39) of Matthews. The Applicant points out that col. 17, lines 37-39 of Matthews simply provide a definition of the term "connection", as used for purposes of programming switches by the SCS 78. In this regard, col. 17, lines 37-39 of Matthews does not disclose any aggregation of physical layer messages. In fact, the term "connection" is defined in terms of MAC layer characteristics, and PHY layer messages are not used.

The Examiner further states the following in the Final Office Action:

In col. 9, lines 8-11, Voldman et al. state that "The MAC layer 44 may use a protocol described in IEEE 802. However, other MAC layer protocols could also be used, such MCNS MAC layer protocol, for instance. Above the MAC layer 44 may be a link security protocol stack. Note that the security protocol stack is above MAC layer". It is clear that Voldman et al. teach a multi-protocol layer.

See the Final Office Action at page 8. The Examiner continues to rely on FIG. 2 of Voldman, which discloses the conventional protocol stack for a data-over-cable system. This time, however, the Examiner is relying on the link security stack 46, instead of the PPP stack 50. Voldman discloses that the link security stack 46 simply prevents unauthorized users from making a data connection from cable network 14. There is no disclosure in Voldman that the link security stack 46 is a multiprotocol layer above the MAC layer. In fact, the link security stack 46 is in the same layer (data link layer) as the MAC 44. Furthermore, the Applicant points out that neither the PPP stack 50 nor the security stack 46 (separately or in combination) are not multiprotocol layers. The Examiner has also attempted to introduce limitations from dependent claim 4 into claim 41. The Applicant respectfully disagrees and points out that claim 4 is dependent on claim 1, and since claim 41 is independent, no limitations from other dependent claims may be brought into the analysis of claim 41.

Therefore, the Applicant maintains the arguments stated in the September 25, 2007 response, which are summarized below for convenience.

## II. The Proposed Combination of Matthews and Beshai Does Not Render Claims 1-40 Unpatentable - Independent Claim 1

With regard to the rejection of independent claim 1 under 103(a), the Applicant submits that the combination of Matthews and Beshai does not disclose or suggest at least the limitation of "aggregating messages from a physical layer of each communication band and each communication channel associated with each of a plurality of protocols in a single multi-protocol layer of the multi-band, multi-protocol network," as recited by the Applicant in independent claim 1. The Final Office Action states the following:

For claim 1, Matthews substantially teaches a method (Title) for providing enhanced connectivity (best path, Title) in a multi-band, multi-protocol (col. 16, lines 28-29) network, the method

comprising: *aggregating* (accumulates, col. 19, line 18-19) *messages* (values, col. 19, line 18) *from a physical layer* (611-Fig. 22. Note that Fig. 22 is an illustration of a port object for the switch of Fig. 21, and Fig. 21 is an illustration of the software 'embodiment-of the invention) of *each communication band* (col. 5, lines 59-61) *and each communication channel* (all nodes, col. 19, line 19) *associated with each of a plurality of protocols* (col. 16, lines 28-29) *in a single multi-protocol layer of the multi-band, multi-protocol network* (Figs. 11A-C, and col. 6, lines 56-57);

See the Final Office Action at page 2. The Examiner equates "aggregating" with "accumulating" and is citing to col. 19, lines 18-19 of Matthews. At col. 19, lines 18-19, Matthews discloses a best path determination method for the SCS switch agent 78 using accumulation of path values  $a, \dots, n$ . In fact, path values are also equated to value vectors that are used for finding an optimal path in a mesh of network nodes. **The Applicant points out that the relevant claim limitation is "aggregating messages from a physical layer."** Therefore, even if we assume that the accumulation of Matthews is the same as aggregation, the Examiner's argument is still deficient since the path values  $a, \dots, n$  are obviously not physical layer (PHY) messages.

With regard to "multi-protocol", the Applicant points out that Matthews, at col. 1, lines 13-14, states "establishing temporary connections which are protocol-independent and transparent." In other words, **the temporary connections are protocol-independent, i.e., they can function under different protocols. This, however, does not mean that the network of Matthews is a multi-protocol network.** The Applicant is also confused as to why the Examiner is referring for support to FIGS. 11A-C, since these figures illustrate best path determination and they do not illustrate a multi-protocol and multi-band network, or aggregating messages into a single multi-protocol layer, as recited in Applicant's claim 1.

Beshai does not overcome the deficiencies of Matthews. Therefore, the Applicant maintains that the combination of Matthews and Beshai does not disclose or suggest at least the limitation of "aggregating messages from a physical layer of each communication band and each communication channel associated with each of a plurality of protocols in a single multi-protocol layer of the multi-band, multi-protocol network," as recited by the Applicant in independent claim 1. Accordingly, the proposed combination of Matthews and Beshai does not render independent claim 1 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claims 11, 21, and 31 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 11, 21, and 31, as well as the corresponding dependent claims 2-10, 12-20, 22-30, and 32-40, are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1.

### **III. The Proposed Combination of Voldman and Beshai Does Not Render Claims 41-42 Unpatentable - Independent Claim 41**

With regard to the rejection of independent claim 41 under 103(a), the Applicant submits that the combination of Voldman and Beshai does not disclose or suggest at least the limitation of "a multi-protocol layer above, and interfacing with, said MAC layer," as recited by the Applicant in independent claim 41.

The Final Office Action states the following:

For claim 41, Voldman et al. substantially teach a system for providing enhanced connectivity in a multi-band, multi-protocol network, the system comprising: a physical layer (38-Fig. 2); a MAC layer above (44-Fig. 2) and interfacing with said physical layer (Fig. 2); and multi-protocol layer above (security 46, and PPP 50 -Fig. 2) and interfacing with said MAC layer (Fig. 2, and col. 9,

lines 8-16). However, Voldman et al. fail to specifically teach a multi-band network for this application. Beshai et al. teach a multi-band network (0051], lines 9-12). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Voldman et al. with Beshai et al. to obtain the invention as specified, for more flexible network applications.

See the Final Office Action on page 6. The Applicant respectfully disagrees with the above argument. Initially, the Applicant points out that neither Voldman nor Beshai are related, or disclose or suggest, a multi-protocol network.

The Examiner further relies on Figure 2 of Voldman. Figure 2 of Voldman discloses a conventional protocol stack for a data-over-cable system. The Examiner has equated the Applicant's "multi-protocol layer" limitation with the PPP layer 50 of Voldman. The Applicant respectfully disagrees. **The PPP layer 50 is in fact a point-to-point ("PPP") layer 50, and it is not a multi-protocol layer. Furthermore, the PPP layer 50 is above the telephone interface 48 (as clearly disclosed in col. 9, line 15 and Figure 2 of Voldman), and it is not above the MAC layer, as erroneously stated by the Examiner. In fact, as seen from Figure 2 of Voldman, the PPP layer 50 and the MAC layer 44 are within the same data link layer 42.** Beshai does not overcome the above deficiencies of Voldman.

Therefore, the Applicant maintains that the combination of Voldman and Beshai does not disclose or suggest at least the limitation of "a multi-protocol layer above, and interfacing with, said MAC layer," as recited by the Applicant in independent claim 41. Accordingly, the proposed combination of Voldman and Beshai does not render independent claim 41 unpatentable, and a *prima facie* case of obviousness has not been established. The Applicant submits that claim 41 and dependent claim 42 are both allowable.

#### IV. Conclusion

The Applicant respectfully submits that claims 1-42 of the present application should be in condition for allowance at least for the reasons discussed above and request that the outstanding rejections be reconsidered and withdrawn. The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

Date: 29-SEP-2008

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